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Policy note

WTO Ministerial Conference in Singapore: Environmental Diversity Versus Harmonization

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1. Introduction

In December, 1996, a new era of the international trade regime started with the first WTO Ministerial Conference in Singapore. Substantial progress has been achieved in freeing trade in information technology products and a North-South collision on international labour standards has been averted. However, these successes overshadow the apparant stagnation in the area of trade and environment. At last, after many years of intensive discussions, many had hoped that the first WTO Ministerial Conference would address this sensitive policy field. Out of the wide range of issues that can be dealt with under this heading, two figure prominently: trade measures pursuant to multilateral environmental agreements and eco-labelling schemes. This note, firstly, tries to explain why exactly these two issues draw most of the attention of policymakers, and secondly, discusses how these issues can be resolved against the background of established welfare theory. It also tries to make clear why the ministers in Singapore pussyfooted around these issues and only decided that the WTO Committee on Trade and Environment has to continue its exploratory work. To come to grisp with these issues, insights from the literature on the trade-environment interface are first summarized in eight propositions.

2. Propositions on Trade and Environment

Before setting forth the propositions, it is good to know that in analytical studies on trade and environment, the following distinctions are usually made. First, there are on the one hand local and national environmental problems, and on the other hand transboundary, i.e. international and global environmental problems. The former refer to externalities caused by domestic environmental distortions that do not expell beyond national borders. The latter refer to environmental problems that affect welfare both in the home country and in one or more foreign countries,

the widest scale of course being the globe. These problems are denoted here as international environmental distortions.

A second important distinction, especially relevant for the policy debate, is between products, and processes and production methods (PPMs). PPMs concern the way in which products are manufactured or processed and natural resources are extracted or harvested. The distinction between products and PPMs goes back to Articles 1, 3, and 11 of GATT that do not allow unequal treatment of like products, be it domestic or foreign. Hence, in principle, GATT rules are directed towards (traded) products and leave PPMs undisturbed. According to the current reading of the GATT, a country cannot take trade measures against another country on the basis of PPM differences; in WTO jargon: unilateral measures with an extra-territorial impact are not allowed. Exceptions are possible for PPMs that directly influence product characteristics: the so-called product-related PPMs. And finally, a distinction is often made between large and small countries. This distinction is common in trade analysis. The difference between large and small countries is that trade changes of large countries have an effect on the world market, while similar trade changes of small countries have not.

The welfare effects of environmental policy measures that affect international trade are, in theory at least, well understood. These insights can be roughly summarized in the following eight propositions.

1. International trade as such cannot be considered a cause of environmental degradation, but this degradation is rather caused by the absence of appropriate policies to protect the environment (World Bank 1992). If environmental costs are adequately internalized by removing domestic and international distortions, international trade would improve allocative efficiency of environmental goods among and within countries.
2. For purely domestic environmental distortions in a small coutry the combination of free trade and standards[1] for PPMs and products is optimal, both from an national and international perspective. Domestic standards setting is the outcome of an interplay between the domestic availability and quality of environmental goods, actual environmental pressures and domestic preferences for environmental quality. In the absence of appropriate domestic environmental policies, international trade interventions designed to offset domestic environmental distortions will not necessarily increase economic welfare compared to the free trade situation (Johnson 1966). Thus, trade interventions for environmental purposes are in this case generally second-best. When no optimal domestic environmental policies are in place, free trade may reduce welfare (Bhagwati and Srinivasan 1995).
3. For purely domestic environmental distortions in a large country, a combination of an optimum tariff and PPM/product standards is optimal from a national perspective. The optimum tariff is related to the market power of the large country, and not to the environmental distortion. If an optimum tariff is politically not feasible (for instance because of the GATT), governments may

use environmental policy instruments, e.g. subsidies (Conrad 1993), or (lower) standards (Kennedy 1994) to capitalize their strategic power. Neither the optimum tariff nor the alternative environmental policy instruments are Pareto optimal from an international perspective.

4. For international environmental problems, the small country will have an incentive to "free ride" on the corrections of environmental distortions, and the resulting environmental benefits, of other countries.
5. For international environmental problems the large country, for the same reasons as in (3), has an incentive to apply an optimum tariff, which, in this case, will also depend on the *net* pollution of other countries. That is, the country engaging in Cournot behaviour in setting its optimal tariff and environmental standards, has to take foreign outputs that generate transboundary pollution into account (Bhagwati and Srinivasan 1995). The resulting Nash equilibrium is not Pareto optimal from an international perspective. If an optimum tariff is not feasible, the same applies as in (3).
6. Pareto-optimal solutions for international environmental distortions for both large and small coutries, are solutions that combine free trade and optimum PPM/product standards in all countries involved. In general, without factor price equalization and the same technology in production, optimal standards will not be equal across coutries. Pollution abatement should take place there where it is cheapest (Bhagwati and Srinivasan 1995).
7. Pareto-optimal solutions are not necessarily equitable from an international perspective, and thus, multilateral environmental agreements that aim at Pareto-optimal solutions are not necessarily self-enforcing (Barrett 1994).
8. And finally, it is impossible to predict on a priori grounds, that is without empirical information on the situation at hand, whether the substitution of one violation of the Pareto optimality condition for another will worsen or improve welfare (Johnson 1966).

From these propositions it is clear that from an international welfare perspective, environmental standards will differ between (groups of) countries to correct for domestic as well as international distortions, compare propositions 2 and 6. Furthermore, proposition 7 argues that Pareto-optimal solutions are not necessarily equitable and are therefore not necessarily self-enforcing. It is therefore very well possible that through negotiations (groups of) countries are permitted to have weaker standards, or that (groups of) countries are allowed more time to comply to the standard internationally agreed upon. In legal language, the phrase "common but differentiated responsibilities", central to Priciple 7 of the Rio Declaration on the duty to cooperate to preserve the Eath's natural capital is often used in this respect. This principle instructs the North to take the lead in the pursuit of sustainable development by affording the South a relatively larger share in the use of the Earth's natural capital. In economic terms, it will result in a relatively lower marginal valuation of the environment, and hence standards, in the South. Another

inference from especially propositions 3, 4 and 5 is that large countries can abuse their market power, whereas small countries have an incentive to free ride.

Translated into the international policy debate on trade and environment, all this means that environmental diversity, i.e. cross-country differences in environmental standards and objectives in a free trade context, has to become the guiding principle. In the eyes of the business community in the North, these differences cause "unfair" trade as like industries across countries are confronted with different standards and environmental costs. Also environmentalists often oppose the idea of "double standards". Thus, in the international policy arena, representatives of the North are generally heading for harmonization of environmental standards i.e. to "level the playing field". By contrast, countries of the South and countries in transition fear that if harmonization instead of diversity becomes the internationally accepted principle, Northern standards will be forced upon them. This would undo developing countries' new comparative advantage in environment-intensive products and would thwart their development aspirations. When the generally stricter Northern standards are imposed on the South, it will result in relatively higher compliance and transaction costs. The latter cost involves costs for information and (frequent) adaptations. In any case, the proliferation of (trade-related) environmental standards in the North makes world trade complex, less transparent and hence more costly for exporters. Finally, there is a general distrust in the South for disguised forms of Northern protectionism, although not necessarily so intended by the environmental legislation.

This North-South controversy on harmonization versus diversity is at the heart of the international deliberations on trade and environment. And exactly the issues of trade measures pursuant to multilateral environmental agreements and eco-labelling schemes seem to be suitable cases to settle this controversy.

3. Trade Measures Pursuant to Multilateral Environmental Agreements

To be effective, multilateral environmental agreements may need trade provisions that either affect trade between parties or trade between parties and non-parties. Furthermore, it is conceivable that parties to an multilateral environmental agreement include trade measures in their implementations strategy that go beyond trade provisions explicitely authorized by the agreemant, the so-called "further going measures". Are these trade provisions legitimate, especially if they address PPMs in foreign countries? Should these trade provisions not be considered as the Northern desire to harmonize environmental standards all over the world? The question is thus whether and when these trade provisions or "further-going measures" are consistent with the parties' obligations under the GATT, and whether the GATT should be amended to accomodate legitimate trade measures pursuant to multilateral environmental agreements. The question obviously has legal and political connotations, but here we will only address the economic dimension of the problem.

THE OPTIMAL POLICY LEVEL

According to proposition 6, the Pareto optimal solution for international environmental distortions is a combination of free trade and PPM/product standards for all coutries involved. The question then becomes which coutries can be held responsible for realizing this welfare maximizing combination. From a theoretical perspective, international coordination of environmental policies has to take place at the so-called optimal policy level. That is the level beyond which no externalities occur anymore (cf Tinbergen 1954). From an environmental point of view, it is irrelevant whether the externalities cross borders "attached" to some physical agent, or that they "cross borders" (that is, have a direct impact on the welfare or utility of foreign nationals) without the help of some physical agent. To illustrate the various way in which externalities can travel, Verbruggen and Jansen (1995) have distinguished the following four ways to determine the scale of an environmental system (cf Siebert 1992, Ch. 10):

1. By the geographical extent of an environmental good or ecological system, such as a forest, a lake or a wetland;
2. By the pattern of transport of a pollutant: through air, water or soil over short or long distances;
3. By the pattern of trade flows in case traded products are the media of environmental effects;
4. By psychological spill-overs when, for instance, the degradation of ecosystems or the treatment of animals in one country or region affect the psychological well-being of people in another country or region.

The scale of the environmental system, as it can be determined in these four different ways, indicates the need for cooperation for those countries that constitute the environmental system if a Pareto-optimal solution is desired. Thus, the spatial scale of the environmental system and the countries involved, constitute the optimal policy level.

At that level, policies need to be coordinated or harmonized, which not necessarily means, as already explained, equal standards across (a group of) countries. What it does imply is that trade measures might be necessary to effectuate policy coordination at the optimal policy level by concluding multilateral environmental agreements. These agreements then function as an international environmental authority or regulator. In order to be efficient and effective three different types of trade measures pursuant to multilateral environmental agreements are envisaged. First, trade measures can be necessary as a complement to PPM/product standards. Complementary trade measures should then have the same effect on the international market as PPM/product standards have on the domestic market. Multilateral environmental agreements legitimize these trade provisions. In certain cases, second-best trade measures are taken because first-best PPM/product measures are not (yet) feasible. Think, for instance, of trade regulations and bans under the Convention on International Trade in Endangered Species of Wild Fauna

and Flora (CITES), while no first-best ecosystem management systems are in place to protect endangered species. Note that according to proposition 8, the effects of second-best measures cannot be predicted on *a priori* grounds; they depend on the particular circumstances of the case at hand. Second, multilateral environmental agreements may include trade provisions directed towards non-parties to address the distortion predicted by proposition 4, namely free riding. There is only an international legal problem in case the non-party is a party to the GATT. In an analysis of the trade provisions of the Montreal Protocal on the phasing out of CFCs (which have never been invoked), Barrett has suggested that the credibility of the threat of trade restrictions was such that, in combination with other factors, free riding has been successfully prevented (Barrett 1995). In this case, one violation of the Pareto optimality condition, i.e. a potential restriction on international trade, had successfully countered another, i.e. free riding, with a positive effect on global welfare.

To reduce the risk of negative welfare effects indicated in proposition 8 as well as protectionist abuse, this more coercive type of trade measures should be made conditional on criteria to ensure that trade is distorted least. Criteria that might guide their use are: last resort, proportionality, transparency and compensation. Especially the latter criterion would punish an imprudent application by demanding compensation for the loss of export opportunities of non-parties, either in the same sector through technical and financial assistance sufficient to enable compliance or the equivalence in other sectors. In this way, a price is put on the use of trade measures directed towards non-parties. This warrants the protection of an international environmental good at the optimal policy level and might dispel developing countries' distrust.

Third, parties to a multilateral environmental agreement may strive for more stringent standards than agreed upon. These further-going measures, although taken in line with the objective of a multilateral environmental agreement, are to be considered as unilateral measures. As such they cannot be Pareto optimal. At best they can speed up international agreement on stricter measures, but they carry the risk of economic inefficiency and retaliation.

4. Eco-Labelling

Eco-labelling is increasingly used as an instrument to provide consumers with environmental information on products on which they can base their consumption decisions. As such, voluntary eco-labelling schemes do not restrict international trade, they just provide information to the consumer. The reason for their prominence in the trade and environment debate is that eco-labels may *de facto* constitute an unjustifiable technical barrier to trade, especially affecting developing countries' exports. This has to do with the fact that life-cycle based eco-labels usually address a combination of both national and international environmental problems, and that the product cycle or chain is spread over different countries, and hence the

environmental effects of production, distribution, consumption and waste. A life-cycle eco-label is granted to a product on the basis of a (weighted) summation of all environmental impacts during the life-cycle of a product. But who is making the trade-offs and establishes the weights? The individual consumer will buy the labelled product if the price difference with the non-labelled product is less than his or her willingness to pay for the difference between the (weighted) sum of the environmental impacts of the labelled and the non-labelled product. This willingness to pay is based on the consumer's assessment of the effect of the environmental impacts on his and her welfare or utility. If the effect of the environmental impact on utility is independent of its location (that is, if the impacts are truly international), than it is perfectly legitimate to compare the environmental impacts of a domestically produced and an imported product. If, however, the impacts contain domestic ones where location matters (in terms of the effect on utility), then the comparison between domestically produced and imported products becomes blurred.[2] The eco-label is a one-dimensional representation of a complex of international and domestic environmental impacts and thus cannot convey the subtle differences between domestically produced and imported products. Consumers may be persuaded to buy more expensive labelled products even though (a part of) the environmental impacts (being purely foreign) may not have an effect on their welfare or utility. If this is the case, the information is false. If trade is reduced because of false information, welfare is reduced and the trade barrrier is certainly unjustifiable.

Formulated in the international policy setting, the South argues that through Northern eco-labelling schemes Northern environmental preferences are forced upon developing country exporters, without taking into account the environmental circumstances and preferences in exporting countries. This extra-territorial impact on PPMs is not acceptable for the South.

5. Policy Implications

The reason that trade and environment was hardly discussed in Singapore is probably due to the fact that it was concluded at forehand that no solutions could be reached yet. With the sensitive issue of trade and labour standards already on the agenda, a failure to make progress on the trade and environment issue with a similar North-South tension would have reflected badly on the Conference, which was meant to become a success.

The issues therefore are still on the table and they will not disappear by themselves. On the contrary, without agreement on how to integrate trade and environmental policies, the liberal trade regime itself may come under stress.

From a welfare-theoretical perspective it is clear that the solutions must come from international cooperation. Specifically, international cooperation is essential in addressing international environmental problems and in eco-labelling, as discussed in this note. It is our view that the international trade regime should

encourage such international cooperation and therefore accept the results of international agreements, whether or not trade provisions are a part of the agreement. The WTO should be flexible enough to accommodate multilateral environmental agreements, but it should, from a welfare perspective, stand firm against unilateral efforts to undermine the comparative advantages of environmental diversity.

Notes

1. The cited literature usually refers to taxes-cum-subsidies. Specialized literature on the choice of policy instruments has shown that various policy instruments may in certain cases be *equivalent* (cf. Bohm and Russell 1985). Therefore, we use the more neutral term "standards" in stead of "taxes-cum-subsidies".
2. The comparison gets even worse if environmental indicators of the product's life-cycle are chosen in such a way that the environmental impact of a given indicator also depends on its location, e.g. the environmental damage due to acidifying emissions depend on accumlated acid deposition, soil type, the stock at risk, etc.

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